

**AMENDED CLAIMS**

1. (original) A method for fabricating simultaneously a phase separated organic film with alignment, comprising:

preparing a mixture of liquid crystal, prepolymer and polarization-sensitive material;

disposing said mixture on a substrate;

applying a polarized light from a light source; and

inducing phase separation of said mixture simultaneously during said applying step, thereby forming a separate layer of homogenously aligned liquid crystal material adjacent a separate and distinct layer of polymer and said polarization-sensitive material on said substrate, wherein alignment of the phase separated liquid crystal layer is induced by the alignment of the polymer and polarization-sensitive material layer.

2. (original) The method according to claim 1, further comprising:

disposing a second substrate over said layers.

3. (original) The method according to claim 1, wherein said applying step causes at least a major portion of said polarization-sensitive material to mix with said prepolymer, said polarization-sensitive material imparting alignment properties to said liquid crystal material.

4. (original) The method according to claim 1, further comprising:

interposing a polarizer between said light source and said substrate to impart a desired orientational alignment to said liquid crystal.

5. (original) The method according to claim 4, further comprising:

positioning an ultraviolet light source near said substrate opposite the side with said disposed mixture.

6. (original) The method according to claim 4, further comprising:

positioning a visible light source near said substrate opposite the side with said disposed mixture.

7. (original) The method according to claim 2, further comprising:

preparing an initial mixture of an initial prepolymer and an initial polarization-sensitive material; and

coating said initial mixture on said second substrate prior to said mixture disposing step.

8. (original) The method according to claim 7, wherein said initial polarization-sensitive material is sensitive to a different wavelength of light than said polarization-sensitive material.

9. (original) The method according to claim 8, further comprising:

applying an initial polarized light to said initial mixture prior to said mixture disposing step to impart an alignment orientation thereto.

10. (original) The method according to claim 8, further comprising:

applying an initial polarized light to said initial mixture after said mixture disposing step to impart an alignment orientation thereto.

11. (original) The method according to claim 10, further comprising:

positioning a mask and a polarizer between said light source and said substrate prior to said applying step so as to form said layer of liquid crystal with microstructures, wherein all of said microstructures are adjacent to said second substrate.

12. (original) The method according to claim 11, further comprising:

positioning another mask between said light source and said substrate after said initial applying step.

13. (currently amended) The method according to claim 7, wherein said initial polarization-sensitive material and said polarization-sensitive material are activated by either ultraviolet or visible light.

14. (original) The method according to claim 1, wherein said prepolymer is a thermally activated prepolymer; and wherein said step of inducing phase separation includes thermally activating said mixture to induce phase separation.

15. (original) The method according to claim 14, wherein said polarized light is either visible or ultraviolet.

16. (original) The method according to claim 7, further comprising:

preparing said mixture with epoxy and resin; and

permitting phase separation of said initial mixture to induce phase separation of said initial mixture and impart an alignment orientation to said liquid crystal.

17. (original) The method according to claim 16, wherein said polarized light is either visible or ultraviolet.

18. (original) The method according to claim 2, further comprising:

positioning a mask and a polarizer between said light source and said substrate prior to said applying step so as to form said layer of liquid crystal with microstructures, wherein all of said microstructures are adjacent to said second substrate.

19. (original) A method for fabricating a liquid crystal device with alignment properties comprising:

providing a substrate;

providing a first mixture comprising at least a first polarization-sensitive agent and a prepolymer;

providing a second mixture comprising at least a second polarization-sensitive agent and a prepolymer;

mixing into either said first or second mixture a liquid crystal;

disposing said first mixture on to said substrate;

disposing said second mixture over said first mixture;

initiating a first phase separation process to said first mixture from the group consisting of at least visible light polarization, ultraviolet light polarization, thermal induction, chemical induction, and solvent induction;

initiating a second phase separation process to said second mixture from the group consisting of at least visible light polarization, ultraviolet light polarization, thermal induction, chemical induction, and solvent induction; and

said processes imparting orientational alignments to said liquid crystal.

20. (original) The method according to claim 19, wherein one of said initiating steps includes at least simultaneous application of one of said polarization processes and one of said

induction processes so as to phase separate said liquid crystal from said prepolymer.

21. (original) The method according to claim 19, further comprising:

securing a second substrate to said first substrate with said first and second mixtures therebetween.

22. (original) The method according to claim 19, wherein said polarization processes comprise:

positioning a light source near said substrate; and

positioning a polarizer between said substrate and said light source.

23. (original) The method according to claim 19, further comprising:

re-positioning said polarizer after said first initiating step, wherein said polarization-sensitive agents impart different orientational alignments at their respective interfaces with said liquid crystal.

24. (original) The method according to claim 19, wherein said first or second phase separation process separates said prepolymer and said polarization-sensitive agent from said liquid crystal.

25. (currently amended) A cell having alignment properties, comprising:

at least one substrate; and

a mixture disposed on said substrate, said mixture comprising at least a liquid crystal material, a prepolymer material and a polarization-sensitive material, wherein said mixture is ~~capable of separation~~ separated into a microstructure

of liquid crystal material adjacent polymer and polarization-sensitive material ~~upon~~ due to polymerization of the prepolymer and simultaneous exposure to polarized light, wherein said liquid crystal material is distributed non-randomly relative to said polymer and polarization sensitive material, and wherein said polymer and polarization-sensitive material layer ~~is capable of imparting~~ imparts alignment properties to said liquid crystal material.

26. (original) The cell according to claim 25, further comprising:

a second mixture disposed on said substrate prior to said first mixture, said second mixture comprising at least a second polarization-sensitive material and wherein application of polarized light causes photo-alignment of said second mixture that imparts alignment properties to said liquid crystal material.

27. (original) The cell according to claim 26, wherein distinct and separate interfaces are formed between said liquid crystal material and said microstructure of polymer and said polarization-sensitive material, and between said liquid crystal material and said second polarization-sensitive material.

28. (original) The cell according to claim 27, wherein said interfaces align said liquid crystal material in different orientations.

29. (original) The cell according to claim 28, wherein said liquid crystal material is formed into microstructures.